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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,980	01/11/2002	Leda Villalobos	6420-57079	5636

7590 02/18/2005

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EXAMINER

BALI, VIKKRAM

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/047,980	Applicant(s) VILLALOBOS, LEDA	
	Examiner Vikkram Bali	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/20/2003</u> | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matraszek et al (US 5875040).

With respect to claim 4 (as exemplary claim), Matraszek discloses a defective pixel correction system that includes selecting a pixel, getting the gradient level in plurality of the direction and adjusting the value of the selected pixel based on the greatest gradient calculated, (see col. 6, lines 2-18) as claimed. However, he fails to disclose the light reflected from the bump projecting from the wafer surface using the time delay and integration camera, as claimed. But, col. 8 lines 2-5 states that any type of camera can be use and the process of the defective pixel correction is done in any photography, therefore, it would have been obvious to one ordinary skilled in the art at the time of invention to simply use the suggestion of using any type of camera and photography to come up with a system of the pixel correction in wafer inspection.

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With respect to claim 5, he further discloses the correction of defective pixel for all defective pixels (see col. 6 lines 2-18) as claimed.

3. Claim 6-10, 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matraszek et al (US 5875040) in view of Tabei et al (US 5805216).

With respect to claim 6 the invention is substantially disclose and as describe above in claim 5. However, Matraszek fails to disclose the number of rows and columns of pixel, view of divided in to taps, dead pixels in the taps, as claimed. Tabei discloses defective pixel correction in the number of rows and columns of pixel, view of divided in to taps, dead pixels in the taps, (see col. 7, lines 56-65, the CCD camera is 2 dimensional array i.e. rows and columns, and the taps are 3x3 pixels windows and there is a dead or defective pixel in the 3x3 taps window) as claimed.

The two references are combine able as they are analogous because hey are solving the similar problem of defective pixel correction. It would have been obvious to one ordinary skilled in the art at the time of invention to simply combine the 2-dimensional array CCD camera defective pixel correction as taught by Tabei into the Matraszek system to provide a system that is excellent defective pixel correction circuit (see col. 2, lines 46-50 for motivation).

With respect to claims 7-10, Matraszek further discloses gradient determination using the pixels along plurality of lines, at least three lines, the lines extend along the row and diagonal direction of pixels including the selected pixel and value of the pixel is adjusted

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by interpolation, (see figure 12 the different directions and col. 6, lines 39-52 for the description of the interpolation in all those directions) as claimed.

With respect to claims 12 and 13, Matraszek further disclose the extrapolation and the extrapolation is by straight line, (see col. 17, lines 49-52) as claimed.

With respect to claim 11, it is well known in the art of interpolation to use the least mean square error correction methods in order to get the closest results in the interpolation. Therefore, it would have been obvious to one ordinary skilled in the art at the time of invention to simply use the well known feature of the interpolation error correction method of least mean square in order to get the correct result of the interpolation.

Claims 1-3 and 14-27 are rejected for the same reasons as set forth in the rejection of claims 4-13, because claims 1-3 and 14-27 are claiming subject matter as claimed in claims 4-13 in different combinations.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 4568823 Diehl et al     Digital ballistic computer for a fire guidance system

US 6724945 Yen et al     correcting defect pixels in a digital image

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US 6104839 Cok et al      Method for correcting pixel values in digital image

US 5805217 Lu et al      Interpolating missing picture elements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 703.305.4510. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703.308.6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vikkram Bali  
Primary Examiner  
Art Unit 2623

vb  
February 17, 2005